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ASSUMPTIONS BEHIND GRAMMATICAL APPROACHES TO CODE-SWITCHING: WHEN THE BLUEPRINT IS A RED HERRING

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ABSTRACT

Many of the so-called ‘grammars’ of code-switching are based on various underlying assumptions, e.g. that informal speech can be adequately or appropriately described in terms of ‘‘grammar’’; that deep, rather than surface, structures are involved in code-switching; that one ‘language’ is the ‘base’ or ‘matrix’; and that constraints derived from existing data are universal and predictive. We question these assumptions on several grounds. First, ‘grammar’ is arguably distinct from the processes driving speech production. Second, the role of grammar is mediated by the variable, poly-idiolectal repertoires of bilingual speakers. Third, in many instances of CS the notion of a ‘base’ system is either irrelevant, or fails to explain the facts. Fourth, sociolinguistic factors frequently override ‘grammatical’ factors, as evidence from the same language pairs in different settings has shown. No principles proposed to date account for all the facts, and it seems unlikely that ‘grammar’, as conventionally conceived, can provide definitive answers. We conclude that rather than seeking universal, predictive grammatical rules, research on CS should focus on the variability of bilingual grammars.

1. INTRODUCTION

‘In order to argue convincingly for or against the existence of ‘code-switching constraints’ and ‘code-switching grammars ‘based on the two monolingual ones’(…), research should first convincingly prove that (a) speakers who code-switch possess two (or more) identifiable linguistic systems or languages, each with its identifiable grammatical rules and lexicon; and (b) ‘code-switched’ speech results from the predictable interaction between lexical elements and grammatical rules from these languages. None of these assumptions, I believe, is proven yet.’ (Alvarez-Caccamo, 1998: 36)

In this paper we will consider certain assumptions underlying grammatical approaches to code-switching (CS). Research in this field has largely concentrated on finding universally applicable, predictive grammatical constraints on CS, so far without success. We contend that this may be owing to misapprehensions as to the way in which grammar is relevant to code-switching. We will pay particular attention to a key concept used unquestioningly in some of the literature on CS grammars, namely the ‘Base’ or ‘Matrix’ language (actually a ‘base grammar’). The assumptions underlying this notion require scrutiny, for several reasons. First, there is a lack of clarity regarding how this Matrix, derived from a general description of a language X, translates into individual competence. Secondly, the dynamic character of CS, which is a major vehicle of language change and convergence, is not accounted for. Thirdly, the role of sociolinguistic factors in CS is neglected, although studies have shown that CS between the same two languages in different contexts can produce significantly different grammatical results.

We are indebted to many remarks and criticisms by others (Auer 1997; Clyne 1987). In particular, a much fuller version of many aspects discussed here can be found in Muysken (2000). What we present as new is a specific focus on the implicit assumptions underlying the grammatical enterprise, and an assessment of their appropriacy in the study of CS.

2. THE NATURE OF GRAMMATICAL DESCRIPTION

‘We should constantly remind ourselves that languages do not do things; people do things, languages are abstractions from what people do.’ (Le Page and Tabouret-Keller 1985: 188) Le Page and Tabouret-Keller (1985) explored the range of senses in which the term ‘Language X’ is used, both popularly and by linguists, going from ‘the property of an individual’, their mother-tongue (‘John speaks Swahili’) to an abstraction based on the (partially known) performance of a group or community, and including such further – but clearly distinct – senses as that of the ‘standard language’ with its normative ramifications. Le Page and Tabouret-Keller also deconstructed the notion of a ‘rule’, a term used in a variety of ways in Linguistics, from a prescriptive meaning to a meaning based on observed regularities in a set of data. One point which we see as important here is that prediction (of linguistic forms) is problematic when the rules are based on a closed system which is derived from an existing body of data. By definition, unconventional or innovative usage cannot be predicted. We believe that the notion of ‘grammar’ needs to be submitted to a similar analysis before deciding what it means to ‘seek grammatical regularities’ in code-switched speech. For present purposes, following Le Page and Tabouret-Keller’s approach, and at the cost of some simplification, we can identify at least 5 different senses of the term ‘grammar’ which are potentially relevant to discussions of code-switching:

1. Prescriptive/pedagogical grammar: Linguistic rules which are dictated by a particular person or persons.

2. Chomskyan/Universalist grammar: Theories of principles and constraints underlying the syntax and morphology of all natural language grammars. Chomskyan Universal Grammar is not itself a grammar, but rather a 'metagrammar' which determines the forms that rules of individual grammars can take. The nature of the principles and constraints formulated within UG theory are frequently highly abstract, and liable to change in the light of developments within the theory.
3. Formal grammars: These are generative grammars, typically expressed in a rigorous phrase-structure formalism which provide highly explicit grammatical descriptions of particular languages. Such grammars may serve as models of processing, rather than of underlying principles of grammar.
4. Cognitive/functional/word grammars: The common feature of this cluster of frameworks is that they do not recognize strict divisions between grammar/syntax, meaning and discourse functions.
5. Idiolectal competence: Within this notion, we should draw a distinction between what speakers know/believe about their grammar and how these beliefs are actually internally represented ('psychogrammar'), as George (1990) has pointed out.

Grammatical studies of CS have on the whole been based on grammars in Sense 2 or Sense 3. However, studies based on Sense 2 (e.g. Di Sciullo et al 1986), which seek to demonstrate universal patterns in CS, have so far not succeeded. Many other studies have been based, implicitly or explicitly, on grammar in the spirit if not the letter of Sense 3– statements about the structure of particular languages, and how the differences between them are reconciled in CS. In this case, the productions of bilingual speakers are interpreted through the template of a set of regularities derived from a quite different set of data which is monolingual – and often introspective – which has provided what is considered to be 'the grammar' of Language X and that of Language Y. Although each of these approaches may have something to offer, different authors (a) often implicitly identify 'grammar' with the approach which they follow, and (b) generally fail to consider in what way this approach might be relevant to the speech of bilinguals.

3.SOME REASONS WHY THE GLOVE DOES NOT FIT

'It is a matter of doubt whether the notion of grammaticality can be applied at all to data as variable as that of code-switching' (Clyne 1987: 744).

We will now look at some of the reasons why CS data is likely to pose problems for grammatical descriptions.

The first reason is its variability. This variability is found between communities, within a single community, right down to the speech of individuals, and even within the speech of a single individual, within the same conversation. In a study carried out in Strasbourg, a female employee in an insurance office was recorded speaking with a variety of interlocutors on a single day. (Gardner-Chloros 1991: 93–94). Depending on the interlocutor and type of conversation, she spoke monolingually in standard French; monolingually in regionally marked/accented French; in Alsatian dialect with some technical terms in French; in a code-switched variety where switches mark topic-shifts; and in a dense code-switched variety where the switches appear in themselves arbitrary ('mixed discourse'). It is difficult to see how a single set of grammatical rules could cover all these variations.

Secondly, a grammar is essentially a linguist's description of properly formed sentences, and hence represents an abstraction over a set of data. More specifically, most approaches to grammatical analysis recognize analytical categories such as 'noun', 'verb', 'noun phrase' and 'clause'. It is, however, not quite clear to what extent such categories – which are ultimately theoretical constructs -are appropriate to the analysis of CS speech. A related issue here concerns the common assumption in grammatical analysis that the sentence (or clause) represents the upper limit of grammar. 'Sentence' is an abstraction, and it is by no means clear that it is an appropriate unit for the analysis of speech. Even accepting that the sentence is a meaningful unit in the context of CS, this would mean that grammatical approaches based on such assumptions can only seek to explain CS within the sentence. In reality, in any situation where there is CS within the sentence unit, there is bound to be CS between sentences and also between conversational 'moves'. A grammatical analysis will therefore only be able to account at best for some of the patterns in the data (Auer 1998: 3). The essential problem facing such approaches is illustrated in Example 1. This string, from Auer's (1997) German-Italian corpus, presents the familiar problem of segmenting transcribed utterances into constituents, from Auer's German-Italian corpus (1997):

(1) zum beispiel due sbaglie cinquanta an' anschla¨ ge abziehe for instance two mistakes fifty tou-touches subtract

'For instance (if you make) two mistakes, they will subtract 50 points' German/Italian

This can be segmented in at least three different ways:

a/zum beispiel/ due sbaglie/cinquanta an'anschla¨ geabziehe/
b/zum beispiel due sbaglie/cinquanta an'anschla¨ geabziehe/
c/zum beispiel due sbaglie cinquanta an'anschla¨ geabziehe/

None of the suggested analyses segments the utterance in terms of conventional (ie. theoretically sanctioned) grammatical units.

Thirdly, code-switchers take advantage of various 'let-outs' to avoid the straightjacket of grammatical rules. One example is the use of a type of CS variously described as ragged (Hasselmo 1972), paratactic (Muysken 1995), disjointed (Gardner-Chloros 1991). Speakers use pauses, interruptions, 'left/right-dislocation' and other devices to neutralize any grammatical awkwardness resulting from switching at a particular point in the sentence. Example 2 illustrates:

(2) Les e´trangers, ze hebben geen geld, he` ?

'The foreigners, they have no money, huh?' French/Brussels Dutch: Treffers-Daller 1994: 207

In monolingual conversation, such interruptions, reformulations, etc are often functional in terms of the meaning produced/the message conveyed. In CS they are all the more functional: they allow the full resources of both varieties to be exploited while sidestepping any grammatical difficulties. They can 'legitimize' combinations from languages which are typologically different, for example as regards word-order. 'Flagged' switches, which involve inserting a conversational marker or comment at the point where the switch occurs, fulfil a similar function. Although resort to such strategies might seem to reinforce the notion that some form of 'grammar' is at play in CS, albeit in the negative sense of being something to be avoided, we must remember that the devices involved are characteristic of informal monolingual speech. Equally, if it is the case that switchers in certain contexts make extensive use of such strategies, there is a need to identify the conditions under which switchers choose (or are compelled) to do so.

Fourthly, and we believe significantly, CS frequently involves creative, innovative elements, often based on exploiting similarities between the two varieties. 'CS as verbal behaviour has language-like properties, i.e., it is really not assumed to consist just of the combination of two completely independent systems.' Boeschoten 1998: 21.

Specific examples of innovation noted in the literature include:

The creation of new bilingual verbs. These may be: (a) Compounds involving a lexical item from one variety and an 'all-purpose' or 'operator' verb from the other (e.g. Romaine 1986; Maniakas 1991); instances of this have been found in many language combinations, whether or not a native model exists within either language (Gardner-Chloros 1995); (b) morphological adaptations of single lexeme verbs, as in the English-French coinage 'Je sunbathais''I was sunbathing' (Gardner-Chloros, unpublished example).

Where the languages are related, there may be similar or identical sounding words, or 'homophonous diamorphs' (Muysken 2000), which serve as a 'bridge' facilitating the transition to the other language. For example in Dutch-English CS, various function-words operate in this way, e.g. de/the and dat/that,or in which is common to both (Clyne 1987). Similarly, Treffers-Daller (1994), in her study of French-Dutch contact in Brussels, found that the two varieties shared numerous phonemes; and that many words, e.g. unique, sympathique could belong to either variety. For reasons such as these, Treffers-Daller, along with many others, abandoned the idea that a clear line could be drawn between borrowing and CS.

The use of compromise forms to get round conflicting morphologies, as in the following example:

(3) Ah voila, nitt dass se do cueillir, un gehn dann uf d'ander Sit

'Yes there you are, they shouldn't pick, and then go to the other side' French/Alsatian: (Gardner-Chloros 1991: 159)

The sentence has a 'pidgin' feel to it: the French verb 'cueillir'is an infinitive – it should be conjugated in the third person plural in order to be grammatical in either French or Alsatian in this context. But in Alsatian, many verb infinitives end in '-iere' (e.g. marschiere, to march), which is also the 3rd person plural ending. The French infinitive is therefore a compromise form, as the French infinitive ending '-ir' sounds like an Alsatian conjugated 3rd person plural.

CS also shows several other 'language-like' properties: (a) it does not regularly present grammatical monstrosities; (b) there is no evidence that it departs from widely accepted universals of language structure and function; (c) speakers express views as to what are acceptable or unacceptable instances of switching, i.e. they make normative judgements as they do in relation to more fully-fledged varieties; (d) CS varieties are often designated by a particular name (e.g. Spanglish, etc).

All this suggests that it is indeed appropriate to discuss CS in terms of grammar. It does not follow, however, that one can, without further ado, apply to it particular grammatical frameworks which have been devised with reference to more conventional – even idealized – forms of speech. And as we will see, those frameworks devised specifically with CS in mind, such as Poplack's Constraints and the Matrix Language Frame model (MLF), can fall into the alternative trap of idealizing – and hence artificially restricting – CS itself.

Next, we will look more specifically at some of the major approaches to the grammar of CS, principally Constraints, Government, the MLF model, and the typology developed by Muysken in Bilingual Speech (2000). We will also look at the notion of the Matrix Language – a notion which is often taken for granted in studies of CS.

4. THE CONSTRAINTS TRADITION

From the late seventies on, various constraints on where CS can occur in the sentence were proposed on the basis of particular data-sets, and the regularities and patterns found therein. Several authors argued that the constraints they had formulated on that basis applied to all code-switching situations. The quest for universals thereby moved from the very deep and abstract levels targeted by the Chomskyan grammarians to a level derived directly from a particular type of linguistic performance.

For example, Poplack's (1980) analysis of a corpus collected in the New York Puerto-Rican community led her to propose that two constraints were operating, the free morpheme constraint and the equivalence constraint. These appeared simple enough to be universally applicable and were widely discussed (Clyne 1987; Myers-Scotton 1993; Jacobson 1998). The free morpheme constraint stated that there could not be a switch between two bound morphemes, i.e. within the word, and the equivalence constraint precluded switches at points in a sentence where word order was different in the two languages. Since then, despite what others consider to be extensive counter-evidence, Poplack has continued to defend these constraints, claiming that switches which apparently violate them are in fact instances of a different phenomenon, 'nonce borrowing' (Poplack 1980).The suggestion that data as chaotic as that provided by bilingual speakers worldwide can be fitted into two neat categories – CS or borrowing – seems to us an instance of the idealization referred to above.

Lipski (1978), Pfaff (1979), Woolford (1983) and others also formulated constraints, all in effect stating that CS cannot occur at points in the sentence where the surface structures of the two languages differ. As more data was collected in different contexts and involving different language combinations, it became apparent that the proposed constraints did not generalize to other data-sets (Bentahila and Davies 1983; Berk-Seligson 1986; Nortier 1990). It even transpired that switches which appear to be precluded in some communities are the commonest type found in other communities (Eliasson 1989).

As these constraints – and their counter-examples – are now well-known, we will give only one example here to illustrate the type of rule which was formulated and a corresponding counter-example:

The clitic constraint stated that clitic subject or object pronouns are always realized in the same language as the verb (Timm 1975: 478; Pfaff 1979: 303).

(4) il koch gu¨ et

'he cooks well' Alsatian/French ; Gardner-Chloros 1991: 168)

Instances of CS have been found in every conceivable grammatical position, as evidenced not only from comparisons of several corpora but even within a single corpus (Nortier 1990). Clearly this

state of affairs should bring about some overall reconsideration of the putative basis of these constraints. Nortier (1990: 169–70) notes an important contradiction in their formulation: on the one hand it is stated that in CS, syntactic rules of either 'language' must not be violated, which implies that underlying structures are the focus of attention; on the other hand, the examples given are all to do with points at which the surface structures do or do not map on to each other.

Romaine (1989: 118) points out that formalizing CS grammar in terms of constraints presupposes that the two languages in contact share the same categories. Sebba (1998) makes a related argument: the idea that switching is allowed when there is congruence between the structures of two languages assumes that there is an objective measure of equivalence between them. In reality, as Sebba suggests, equivalence is constructed by individual speakers (as Example 2 above illustrates). This shifts the grammatical burden onto the speaker, and adds weight to the argument that linguists' grammars may be of limited use in explaining CS.

5. GENERATIVE GRAMMAR AND CS

The explicitness and formal rigour of analyses developed within various generative frameworks, together with the alleged explanatory nature of such analyses, have held out the promise of explaining patterns of CS, and predicting constraints on the grammar of CS. There is a substantial literature in this area, and here we will restrict our attention to a consideration of some representative tendencies.

Some approaches based on specific 'universal' principles have been vitiated by both empirical evidence and theory-internal contradictions. Attempts to explain constraints on CS in terms of Government relations, for example, have typically contended that there can be no switching between a governor and the governed element. This fails, however, to account for many common switches, such as those between verb and adverb (Uno no podia comer carne every day 'We couldn't eat meat every day'), or subject NP and main verb (Les canadiens scrivono c 'The Canadians write c') (examples quoted in Muysken 1995).

The proposals were therefore modified in Muysken (1990) and restricted to lexical government by non-function words. Even this prediction was too strong. Muysken refers in particular to the numerous counter-examples in Nortier (1990) from Dutch-Moroccan Arabic CS. These include switches between elements canonically related by 'government' such as verbs and direct objects (anaka-ndir intercultureel werk: 'I I-am doing intercultural work'); between direct and indirect objects (ib li-ya een glas water of so: 'Get for-me a glass of water or so'); and between copula-type verbs and their predicates (wellit huisman: 'I became a houseman'). Further counter-examples have been found in Finnish-English CS by Halmari (1997) and in Greek Cypriot Dialect – English CS by Aaho (1999).

A further problem here is that the theoretical constructs themselves are, in many cases, highly abstract, and subject to frequent redefinitions. In the case of 'government' for example, several successive formulations of the relationship and the domain in which it applies, appear in the literature.

Two further approaches to CS grammar based in generative frameworks, should be mentioned at this point. Both Mahootian (1996), and Chan (1999) propose 'null' theories of CS grammar, with the aim of demonstrating that CS can be described in terms of the grammatical principles relevant to particular monolingual grammars, and hence does not require the postulation of CS-specific

devices or constraints. Mahootian's proposals are couched in the formalism of Tree Adjoining Grammar (Joshi 1985), while Chan assumes a Minimalist version of Principles and Parameters theory.

Despite their distinct theoretical orientations, Mahootian and Chan are alike in proposing that constraints on CS grammar operate at the level of phrase structure, and specifically that constraints affect the ways in which the heads of phrases select their complements. Mahootian is concerned with the 'surface' ordering of constituents, and shows how the different phrase structure rules of English (an SVO language), and Farsi (SOV), determine that certain potential switches will not occur. In Farsi-English CS, for example, if the verb is selected from Farsi, the structure projected from Farsi verbs determines that an object will precede the verb, regardless of the language of the object. Conversely, the choice of an English verb will select an object to its right, again regardless of the language of the object. As a result of these grammatical principles, we can expect that switched sequences composed of a Farsi verb and a preceding English object, or of an English verb with a following Farsi object will occur. However, there will be no instances of a Farsi object preceding an English verb, or of a Farsi verb preceding an English object. Mahootian's proposal – which is essentially concerned with 'surface' word order differences between languages – is called into question by counterexamples such as that below (from Eppler, 1999).

(5) Jemand hat gesagt das er ist the father of her child

'Somebody has said that he is the father of her child' German/English: Eppler 1999: 287

As Eppler observes, word-order constraints formulated in terms of the ordering of constituents dominated by a specific node would not admit switches such as this, in which the complement 'the father of her child' follows ist, rather than precedes it as the relevant phrase structure rule for German would require.

Mahootian's proposal is mainly concerned with the content of lexical constituents, as determined by language-specific rules for those constituents. By contrast, Chan (1999) argues that certain patterns of switching can be explained by reference to the types of phrase that 'functional' categories (Tense, Determiners, and Complementisers, among others) select as their complements in different languages. Chan cites the example below from Bentahila and Davis (1983). What is important here is that Moroccan Arabic complementiser bas must be followed by a finite clause in Arabic. Chan points out that although the complement clause is in another language – in this case French – the syntactic requirement that the subordinate clause be finite holds.

(6) je peux le dire had le truc hada bas je commence a` apprendre I can it say this the thing this that I begin to learn

'I can say this in order that I begin to learn' French/Moroccan Arabic: Bentahila and Davies 1983: 323

Chan proposes that certain instances of CS are constrained by the 'Functional Head Constraint', a condition to the effect that a switch can take place between a functional head in one language, and its complement in the other language, provided that the complement matches the type of complement which would be required in the first language. Chan demonstrates that this constraint is empirically superior to similar proposals by Belazi, Rubin and Toribio (1994), and Myers-Scotton (1993), in that it predicts a wide range of data without the need for special filters and let-out mechanisms.

However Chan's analysis leaves several questions open. Firstly, Chan's constraint relates only to a particular set of categories. These categories (the functional categories), as formulated in Chan's theoretical framework, are, as with government, abstract categories, whose properties are not fully understood, and which do not in any case constitute a homogeneous class: it is not clear, for example, why functional categories should impose constraints on CS. An alternative explanation of the example from Bentahila and Davis cited above, for example, might point to the fact that verbs such as 'say' (or its French equivalent 'dire') require finite complements in most languages. Secondly, data from a range of sources suggests that some 'functional categories' such as agreement may be affected in CS (witness the common phenomenon of the use of 'bare' verb forms in CS). It is by no means certain, however, that the specific grammatical properties of these categories are the same across languages. Nor is it clear that such categories would consistently impose 'constraints' on the form of switched utterances. Chan's Cantonese data, for example, contains aspectual markers and these are argued to determine the absence of inflectional morphology on English verbs which have been embedded in Cantonese sentences. In addition to the problem of possible non-equivalence between the relevant Cantonese and English functional categories (Cantonese appears to have no functional categories marking tense, for example), it is interesting to speculate how the situation would work in reverse, say when an English verb appears fully inflected inside a Cantonese sentence. Indeed, Chan offers examples of inflected English nouns in Cantonese sentences. To sum up, while Chan's analysis points to a potentially interesting locus of research, it leaves certain questions unanswered. We conclude, therefore, that as with other proposed syntactic 'constraints', the jury must remain out on Chan's proposal.

Of particular interest to the present paper is that both Chan and Mahootian are seeking to capture putative constraints on CS on the assumption that one of the two languages involved provides a 'local' grammatical template for each case of switching. For Mahootian CS forms are constrained by lexical rules governing the structure of phrases, while for Chan the constraints obtain at a more abstract level of syntactic structure. But, as has been discussed above, the existence of mixed forms, bare forms and avoidance strategies suggests on the contrary that there is more going on in CS than can be accounted for by models which assume a 'base' language. At an intuitive level, many bilinguals find the idea that one language is always dominant in CS speech does not correspond with their experience. At a theoretical level, as we discuss below in relation to Myers-Scotton's work, there are serious difficulties in finding linguistic criteria to distinguish the base language from the 'secondary' variety.

6. THE MLF MODEL

We turn now to a consideration of an assumption which, in various forms, underlies many approaches to CS grammar, including those reviewed above, namely the assumption that in CS one language (or grammar) provides the frame or template which determines key aspects of the utterance.

A substantial theoretical model which claims to ''predict the form of CS utterances'' is the Matrix Language Frame (MLF) model developed by Myers-Scotton (1993and 2002). Work by Klavans (1985), Joshi (1985) and others had already posited a ''frame'' or ''matrix'' into which elements of the other language could be embedded, but Myers-Scotton, in a series of publications, formulated an elaborate grammatical model based around this concept. Although, by its predictive nature, it also involves constraints, it differs from earlier constraints-based explanations in providing a

hierarchical framework and in tying in the proposed constraints with a broader programme of explanation related to:

(a) a morpheme typology, including a primary division between system and content morphemes,

(b) a set of principles determining

the differential activation of morphemes, according to type, in bilingual speech production. It is assumed that language processing involves the construction of a frame, dictated by one of the two languages (the matrix), into which elements of the other language (the embedded language) are slotted. Interestingly, the notion of 'grammar' underlying the system is ad hoc rather than fitting in to any of the types of grammar listed above, although as it draws on psycholinguistic notions, it probably fits best with category 4. The model is based on the two oppositions of ML versus EL, and the content versus system morpheme distinction. It is 'insertional' (see discussion of Muysken 2000 below), as it assumes that the ML provides the grammatical frame into which EL elements are inserted. We are told that the ML is to be thought of not as a language in itself, but rather as the 'abstract grammatical frame of a bilingual CP'. This allows the ML to be composed of 'abstract structure from more than one source variety', thus constituting a 'composite ML' – a concept with which we are uneasy, as it runs the risk of being a contradiction in terms. A less elaborately articulated, but also less controversial proposal as to how bilingual speakers can be operating on the basis of a 'mixed medium' is put forward in Gafaranga and Torras (2001).

7. THE MATRIX LANGUAGE

Criticisms of the model revolve largely around the definition of the ML (and consequently the EL). The definition of the ML has been successively revised in the development of the model.

The main criterion for identifying the ML was originally held to be the number of morphemes from each language in a discourse sample consisting of more than one sentence – although by MyersScotton's admission, ''How large is ''large enough'' is an unresolved issue'' (1993: 68); the language which provides more morphemes than the other is the ML. Many bilingual conversations, according to this criterion, would change ML several times (Bentahila and Davies, 1998: 31).

In recent formulations, the ML is said to provide the majority of system morphemes. The division between system and content morphemes is, however problematic. Firstly, as Muysken (2000) points out, there are at least four different criteria relevant to this kind of classification in different languages; also, the distinction does not operate in the same way across languages. Indeed in a later paper, Myers-Scotton's collaborator Jake writes that ''there is variation across languages in the assignment of particular lexical ''concepts'' to content or system morpheme status'' (1998: 354).

There are also many examples of CS in which it is function words on their own that are the switched elements. This makes it difficult to see how the language of the function words could in itself determine the ML.

(7) Et lui qui n'est la que trois mois odder deux mois odder quatre mois

'And with him being there only three months or two months or four months' French/Alsatian: Gardner-Chloros 1991: 169.

In a corpus of Punjabi-English, discourse markers such as but were a frequent locus for CS, and conjunctions, either alone or with another function word, were frequently the only code-switched element in the sentence (Gardner-Chloros, Charles and Cheshire 2000).

The MLF model has been repeatedly amended. Myers-Scotton and Jake (2000) presents a new ‘‘submodel for classifying morphemes into four categories’’, known as the 4-M model, further elaborated in Myers-Scotton 2002. The model posits a subdivision of system morphemes into subcategories which are said to be directly related to, and differentially activated during, the process of language production. Accordingly, it is predicted that these different types of system morphemes will be differently treated
in CS, and indeed in other types of language contact and change. So far, the ‘proof’ that these morphemes are the product of different processes in the brain consists in showing that they are treated differently in different instances of CS, and no independent criterion for ascertaining their different status is proposed. In order to account for a number of counterexamples, Myers-Scotton (2002) proposes a further hypothesis – the Blocking Hypothesis, supplemented by various conditions and principles to accommodate apparently systematic ‘exceptions’. The arguments involved, and the elaborations of the model itself are of increasing complexity (see discussion in Winford 2003), and appear to serve mainly to maintain the viability of the model. They have no direct bearing on the notion of the Base Language.

Although the grammatical details of Myers-Scotton’s system have repeatedly been amended, the definition of the Base Language continues to be based on non-grammatical criteria – a fact which raises questions for the viability of the grammatical claims embodied in the model. These further criteria are:

1. Psycholinguistic: the ML is said to be more ‘‘activated’’ in the brain. In one respect at least, this criterion appears to be self-evident. Exactly what is to be understood by ‘activated’ and how this translates into grammatical terms is, however, not specified. There is no explicit connection between the language which is more activated in the brain and the grammatical frame of a sentence – even if such activation were amenable to empirical verification.
2. Social: the ML is said to represent the ‘‘unmarked choice’’ for conversations of that type in the community. But which language is the unmarked choice for that community is a separate issue from that as to which set of rules governs the productions of a particular individual at a particular moment. Auer (1997) points out that the use of this criterion presupposes a very uniform community where linguistic choices are highly constrained. In many cases where there is no social pressure to use either of the two varieties on their own, the alternation found is mainly related to the structuring of individuals’ discourse (e.g. Alfonzetti (1998) on Italian and Sicilian).

As noted above, the notion of a Base or Matrix language has been used by various researchers apart from Myers-Scotton without proposing any particular definition or means of identifying it. Some have suggested, however, that the ML is determined by the language of the main verb (Klavans 1985; Treffers-Daller 1990). But as Muysken (1995) points out, many languages have strategies to incorporate alien verbs (e.g. through prefixes in Swahili), and taking that borrowed verb as determining the base language can be misleading.

Nortier (1990: 158) distinguishes between the base language of a whole conversation, and the matrix language of individual sentences. Similarly Moyer (1998) contrasts the base language, meaning the language which determines the grammar of the sentence, and the main language, which ‘sets the frame for the entire exchange’. The latter ‘‘can only be determined by taking into account the wider linguistic context of the conversation or speech event’’ (1998: 223). It is clear, as

Moyer suggests, that we are not dealing with a unitary phenomenon: our view of which language dominates will depend on the level of planning – and the size of the corpus – which we have to examine.

For example some notion of base language can be of some practical use as a means of sifting the data and correlating the patterns found with sociolinguistic parameters: Rindler-Schjerve (1998), using Myers-Scotton's quantitative criterion, refers to a change of ML among the younger generation, which is symptomatic of language shift. At a grammatical level, however, instances of CS which contradict the MLF model are found in her data (1998: 243). This is not surprising in that it is a big leap from using the notion of quantitative preponderance of morphemes from one variety to asserting that an abstract frame provided by that variety provides a grammatical template for bilingual language production.

8. MUYSKEN'S 'BILINGUAL SPEECH' TAXONOMY

Muysken (2000) reviews a huge range of evidence from work on the grammar of CS and proposes a way of fitting it into a coherent framework. He prefers the term code-mixing (CM) to the commoner CS, reserving the latter as a synonym for what he calls alternation. Alternation occurs when there is compatibility of the two grammars, or at least equivalence at the point where the switch occurs. Models such as Poplack's, in which grammatical equivalence is held to be a precondition for switching, are seen as a consequence of her Spanish-English data being mainly of the alternational variety. Alternation is illustrated in several data-sets which vary considerably as to the patterns exhibited, but which share the feature of containing sentences whose grammar is hybrid, and where the elements following and preceding the switched string are not structurally related. Some of the variation within these data-sets can be explained by taking account of deep v. surface structure contrasts/equivalences between the languages; in others a sociolinguistic explanation is more appropriate.

The second type is insertion, a process akin to borrowing but where elements longer than a single word may be inserted. According to Muysken, the MLF model is directly related to the primacy of insertional material in Myers-Scotton's African corpus. The notion of a ML, Muysken claims, is relevant to this type of switching. Although no single criterion is generally valid for establishing which language is the base, Muysken claims that in insertional CM, one language remains more activated and tends to provide the language of the main verb and most of the functional elements. Models based on Government represent a particular interpretation of insertion.

The third process is congruent lexicalization, in which the languages share a grammatical structure but the vocabulary comes from two or more languages. Counter-examples to the constraints and the base-language models, from data such as Clyne's Dutch-English in Australia, are explained as instances of congruent lexicalization. The latter is a product of grammatical convergence or of similarities between languages. An important proviso in determining the steps which lead to this type of CM are the difficulties of determining the nature of the monolingual varieties which are mixed.

Each of these three types of CM is associated with different linguistic, socio-and psycholinguistic factors. Alternation is likely to occur in stable bilingual communities with a tradition of language separation, each language being successively activated in the bilingual's brain. Insertion is likely to be found in situations where bilingual proficiency is asymmetric (e.g. colonial or recent migrant settings). This is illustrated by Backus's work on Turkish speakers in the Netherlands (1999);

Backus develops the idea of insertion even further and talks of 'morphophonemic chunks', which are similar but not isomorphic with Myers-Scotton's 'EL islands'. The activation of one language at a time is said to be temporarily reduced. Inter-generational language shift may be reflected in a change in the direction of the insertion. Congruent lexicalization is likely to occur between closely related languages, where their relative prestige is roughly equal, or where there is no tradition of overt language separation (e.g. 2nd generation migrant groups, post-creole continua); here the languages are assumed to partly share their processing systems.

Muysken therefore accepts the notion of constraints, but believes that they vary depending on the specific type of CM. He also suggests that there are links between the three major processes, and that these should be seen as being on a continuum. Although Muysken is basically offering a set of descriptive categories rather than a model of CM as such, his conclusion from the evidence that the question of the base language is only relevant for certain specific types of code-switching, tied to specific linguistic and sociolinguistic circumstances, seems entirely plausible. He argues that no single set of grammatical rules can, currently, account for all the instances which have been described. It is legitimate to describe CM in terms of the grammatical regularities which characterize it, but we are faced with too much variation for a single set of rules to account for it – so far we have a jigsaw with numerous pieces still missing.

9. TYPOLOGICAL V. SOCIOLINGUISTIC FACTORS

If Muysken is correct in assuming that the different types of CS are associated with different degrees of linguistic closeness between the languages and different sociolinguistic circumstances, then we need to find a way of assessing the relative contribution of these factors. One useful way to do this is to make comparisons between cases where the same pairs of languages are combined in different sociolinguistic settings, and different pairs are combined in similar settings. We could then answer questions such as: How do the two aspects relate to one another? Are the restrictions imposed by grammar the inescapable bottom line, with sociolinguistic parameters merely pushing the patterns towards one set of options rather than another? Or are the social, personal and interactional reasons for CS the primary determinant, grammatical options serving merely as second-order expressions of socially/individually determined choices?

We have some clues already, in that we find different patterns within the same community and the same language combination, depending on the speakers' age, education, social background, context, topic etc. Bentahila and Davies (1983) showed how different generations in Morocco, educated to differing extents through the medium of French and Arabic, each code-switch quite differently from one another, using different proportions of the two languages and combining them in different ways. Li Wei (1998) has similar findings within the Tyneside Chinese-speaking community, where network factors play an important role in when and how Chinese and English are combined. Similar findings were made by Schmidt (1985) in the context of a declining aboriginal language, Dyirbal, and English. Conversely, we find similarly dense code-switching patterns, across a number of different language-pairs, where similar social circumstances obtain: for example amongst close-knit groups of immigrants, CS is often not only very frequent but very intricate at a grammatical level (Agnihotri 1987; Cheshire and Gardner-Chloros 1997; Nortier 1990).

Thirdly, in cases where there is CS between the same language-pairs in different sociolinguistic settings, the CS patterns can be radically different. For example in the German-English CS data analysed by Eppler (1999), German SOV order is preserved in subordinate clauses, whereas in

German-English CS in Australia (Clyne 1987), a couple of generations down the line, the order shifts to that of English (SVO). This suggests that basic word-order is relatively resistant to change and is not ‘‘toppled’’ until a number of other symptoms of convergence – or dominance of one variety over the other – have manifested themselves. This could constitute a useful hypothesis for future research. Similarly, Muysken (2000) has shown how the manner of incorporation of bilingual verbs varies between Malay-Dutch spoken in Indonesia, and the same combination spoken by Moluccans in the Netherlands. The differences are in all likelihood a product of separate norm-formation processes, like the development of differences between British and American English. In the absence of contact between the groups in question, the same grammatical potentialities can be exploited quite differently.

All this suggests, as Muysken intimates, that typological factors provide a set of possibilities rather than dictating certain forms of CS. An extreme prediction, based on typological considerations, was that there are no possible switch-sites between pairs of languages with radically distinct word orders, such as SOV Tamil and VSO Welsh (Sankoff & Mainville 1986). Yet in Cheshire and Gardner-Chloros (1997), we found a higher proportion of grammatically dense CS between Punjabi and English than between Greek and English in two comparable immigrant communities in England. There are several possible reasons for this, but whatever the correct one, there can be little doubt that Greek and English are linguistically closer than English and Punjabi. This is why we consider it to be a priority for future research in this field to make systematic comparisons between CS in different settings, taking account of both sociolinguistic and typological factors.

10. CONCLUSION

We have tried to argue that attempts to characterize CS speech using the assumptions of formal syntactic analysis, or even to explain the structure of CS in purely syntactic terms, may be missing the point. There are several reasons for this:

1. ‘‘The phenomenon of CS confronts researchers with the problem of distinguishing between the idea of a language as the product of an individual’s (grammatical) competence and that of a language as an externally defined, self-contained entity’’ (Le Page and Tabouret-Keller 1985). This may be compared with Chomsky’s (1986) distinction between E-language, meaning the totality of utterances that can be made in a speech community, and I-language, defined as ‘some element of the mind of the person who knows the language’. As Muysken (2000) has pointed out, there are various possible explanations as to how there may not be a one-toone correspondence between the E and the I-language, some of which would help us to account for CS. In particular, bilingual language use involves combining modules from different languages, and several E-languages may correspond to a relatively coherent I-language. As I-language is based on principles common to all grammars, rather than on ‘rules’ specific to particular languages, CS must, in general terms, conform to UG principles, but CS is not bound to reflect the rules of particular languages.

If, as appears likely, the processes involved in CS are ‘surface’ processes, the formal grammars purporting to represent ‘I’ languages will be of limited or negligible relevance.

2. The behaviour of code-switching speakers eludes definitive grammatical description in that it is highly variable (between and within both communities and individuals), and in that it exploits the propensity of speech to avoid full, ‘grammatical’, sentences. It also leads to the development of more or less local conventions of its own, i.e. displays rule-creation mechanisms like other natural languages. It is as much because of this characteristic as because of the systems we can extract

from individual data-sets that CS can throw light on grammatical issues. It makes sense to extract the rules which speakers appear to be following from CS data, rather than bringing to the analytic task a baggage of rules which have been developed in quite a different context and which may have little relevance. Thus our argument is not about whether grammar plays a role in CS, but about how best to characterize the level(s) at which grammar operates. There is truth both in Myers-Scotton's remark that ''There are no CS utterances with 'helter-skelter' constituents, at least not as reported to date'' (1993: 69), and in Muysken's summary: ''The looser the syntagmatic relation is in a sentence, the easier it is to switch.'' (1995: 188). There is also good evidence that typological similarity leads to code-switching based on equivalence between the structures, whereas conflicting typologies (e.g. opposing word-orders) lead to different tactics being employed and hence to different linguistic outcomes. Until more comparative studies have been done, we should avoid making the leap from descriptive to predictive. Currently, it is not uncommon to find claims in the grammatical literature that certain types of juxtaposition ''are not'' CS. We regard such claims as meaningless, until we have a better understanding of the level at which CS regularities/patterning operate.

3. One of the greatest difficulties with existing models is in accounting for the role of CS in language change. If CS consists in a combination of two discrete systems, based on specific grammatical principles, then there is no clear place for the variation which precedes and underlies the refocusing of norms. Myers-Scotton's suggestion that the ML in a community may change over time (the ''ML turnover hypothesis''), or even in extreme cases within a conversation, fails to account for the gradualness and irregularities of this process. In fact, there is ample evidence that the assumption that two distinct systems interact in CS, while at the same time retaining their separate identities, is an oversimplification, applying probably only to a minority of instances of CS.

4. In several areas of linguistics, the traditional division of grammar into morphological, syntactic, etc components, is being questioned, and the need to recognize that discourse, structural and expressive factors operate simultaneously is being acknowledged. Purely 'grammatical' constraints on CS – beyond those which may be assumed to be inherent in language such as structure-dependence, and some aspects of phrase structure, may, therefore, be irrelevant or non-existent. Even those who argue for the universality of certain grammatical constraints, acknowledge that non-grammatical factors play a role in determining which of the possible switch-sites are exploited, and with what frequency. We have argued strongly in favour of more comparative research to ascertain what the relative impact of these factors in different contexts is. To sum up, although syntax plays an important role in CS, it cannot be assumed a priori that the constructs of syntacticians are the best means for characterising the processes of performance data such as CS. The possibility of throwing light on this question depends partly on whether or not it is right to assume that all bilinguals alternate in some meaningful way between two clearly distinguishable sets of rules – and this is a question which manifestly cannot be decided by grammatical analysis alone.

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